

METHOD AND SYSTEM FOR IMPLEMENTING WEIGHTED VECTOR ERROR
ECHO CANCELLERS

ABSTRACT

A weighted error echo canceller for transceivers with unequal bandwidths is provided. The present invention enables an adaptive echo cancellation filter to perform at a lower sample rate. An efficient echo cancellation scheme, referred to as Weighted Vector Error Echo Canceller (WEVE-EC) is proposed for various applications, such as applications where the receive path has a higher sampling rate. The WEVE-EC architecture may be implemented along with an adaptive algorithm, which may be based on Least Mean Square (LMS) update rules. Various other adaptive algorithms may be used to train the WEVE-EC of the present invention. An Error Weighting Multi-input-multi-output Filter (EWMF) of the present invention provides a flexible weighting scheme on most or all the sampling phases of the error signal.